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**Volume I**

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# IP and Antitrust

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An Analysis of Antitrust Principles  
Applied to  
Intellectual Property Law

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different results in those two analyses, though the fact that the court found section 2 liability for bundling made most of its subsequent tying discussion superfluous on the basic question of the legality or illegality of specific practices. Most of what was alleged to be unlawful tying was independently condemned as monopolization under section 2, without any finding of tying law's "separate products"—an approach advocated by the treatise Antitrust Law when the defendant is a monopolist in the "tying product."<sup>51</sup>

**12.3e. Nature of the new technology.** Where a vertically integrated monopolist's technological change has altered the relationship between two or more complementary goods markets, reducing competition in the market the defendant does not currently control, the technological change might be thought to constitute anticompetitive conduct sufficient to support a section 2 claim. Because there are legitimate reasons to make technological changes, however, courts are properly wary of declaring such changes illegal. In order to decide whether a technological change is pro- or anti-competitive, therefore, courts must essay the difficult task of determining whether the change is a bona fide innovation, and if so what its effects will likely be. In this section we discuss some limiting cases, and then offer some guidance in this problematic area.

**12.3e1. Significant improvement as safe harbor.** One limiting set of cases involves technological changes to an interface that significantly improve the performance of the product or interface itself. The antitrust law should not discourage innovation. As a result, proof of significant innovation in the interface itself should automatically bar any finding of anticompetitive conduct under section 2 of the Sherman Act.<sup>52</sup> If a product is a significant improvement over the prior art, and the improvement could not have been accomplished without changing the interface to render it incompatible, permitting an antitrust claim would stifle innovation.

Cases of this sort normally involve significant product upgrades or the inclusion of new functionality that has the incidental effect of displacing complementary products built around the old system. For example, in *California Computer Products v. IBM*,<sup>53</sup> the plaintiff alleged that IBM had violated the antitrust laws by integrating disk drive controllers into its newest computer Central Pro-

51. See 3A Antitrust Law ¶777 (2d ed.), and Antitrust Law ¶1746.1 in the Supplement.

52. It is not sufficient to show any improvement; the improvement in question must be "significant." See, e.g., *Caldera, Inc. v. Microsoft Corp.*, 72 F. Supp. 2d 1295 (D. Utah 1999).

53. 613 F.2d 727 (9th Cir. 1979).

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cessing Units (CPUs). CalComp made external disk drives for IBM computers in competition with IBM, and the effect of IBM's decision to release optional integrated disk drive controllers in the main IBM box was to substantially reduce the demand for CalComp's external drives. CalComp alleged that IBM had engaged in mere "technological manipulation" that did not improve the performance of its products.<sup>54</sup> The court rejected that claim. It found that the integrated products performed the same function as the old components about as well, but were significantly cheaper. It stated:

[P]rice and performance are inseparable parts of any competitive offering; and equivalent function at lower cost certainly represents a superior product from a buyer's point of view . . .

IBM, assuming it was a monopolist, had the right to redesign its products to make them more attractive to buyers—whether by reason of lower manufacturing cost and price or improved performance. It was under no duty to help CalComp or other peripheral equipment manufacturers survive or expand. IBM need not . . . have constricted its product development so as to facilitate sales of rival products.<sup>55</sup>

We should emphasize that in cases like *CalComp*, it is clear that the product innovation itself is what causes the incompatibility. There is simply no way to avoid injuring the makers of separate peripheral devices if the innovation involves integrating the peripheral into the main system.<sup>56</sup> By contrast, if the innovation could be achieved without rendering the systems incompatible, a more difficult question is presented.<sup>57</sup>

12.3e2. *Deliberate weakening as evidence of anticompetitive conduct.* In the prior section we assumed that the interface change in question involved significant innovation. The other limiting case goes to the opposite extreme. In some cases it is possible that an interface change could actually degrade system performance or increase cost, giving consumers a less powerful product than before the change. In such an extreme case, it is difficult to imagine a plausible procompetitive reason for such a change, and the inference

54. *Id.* at 744.

55. *Id.* at 744-745. See also *Telex Corp. v. IBM*, 367 F. Supp. 258 (N.D. Okla. 1973), rev'd, 510 F.2d 894 (10th Cir. 1975).

56. *Cf. Aldridge v. Microsoft Corp.*, 995 F. Supp. 728 (S.D. Tex. 1998) (no section 2 claim permitted on behalf of manufacturer of add-on software to the Windows operating system whose functionality was included in the next generation Windows program).

57. See §12.3e3.



that the manufacturer changed its product in order to exclude competition in the peripheral market is rather stronger.

An example of such a change can be found in *In re IBM Peripheral EDP Devices*.<sup>58</sup> In that case, as in *CalComp*, the plaintiff Transamerica was a maker of IBM-compatible peripheral devices—in this case external tape drives. It argued that IBM had monopolized the tape drive market not by integrating tape drives into the IBM computer itself, but by changing the interface specifications for its own peripheral tape drives in a way that rendered Transamerica's drives incompatible. In particular, IBM's new CPUs included a byte multiplexor channel that permitted slower speed (that is, older) devices to be connected to the system through the same interface as the new faster peripherals. IBM's new byte multiplexor channel, which had originally been able to transfer data at a rate of 50 kps (kilobits per second), was weakened so that it could transfer only 29 kps. Most peripheral devices, including Transamerica's, sent data at 30 kps, and so were rendered unable to work with the new IBM system.

The Court found that IBM deliberately reduced the performance of its own system in order to render third party devices incompatible. It noted:

IBM degraded system performance, making its product less attractive to users. The only purpose served and the only effect of the degradation was the preclusion of competition. The law tolerates the perpetuation of a monopoly only where necessary to preserve competitive incentives and to avoid being unfair to the innocent monopolist. The law need not tolerate deliberate acts where the only purpose and effect is to use monopoly power to gain a competitive advantage. Slowing down the multiplexor on the 115 and 125 was unreasonably restrictive of competition and would have violated Section 2 of the Sherman Act if IBM had monopoly power.<sup>59</sup>

An interface change that actually impedes product performance is not entitled to any deference from antitrust courts. However, as the ultimate holding in the case makes clear, even weakening one's own product does not violate section 2 unless the interface owner has market power and the plaintiff demonstrates the market prerequi-

58. 481 F. Supp. 965 (1979), aff'd on other grounds, 698 F.2d 1377, 1382 (9th Cir. 1983). See also *Northeastern Tel. Co. v. AT&T*, 651 F.2d 76 (2d Cir. 1981) (AT&T's allegedly intentional design of a product interface to be unnecessarily cumbersome could violate section 2; remanding for more specific factual findings).

59. 481 F. Supp. at 1007-1008. Nonetheless, the court ruled for IBM because it found that IBM did not have monopoly power and therefore could not have violated section 2.

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sites discussed above.<sup>60</sup> Further, as we discuss below, evidence of anticompetitive intent should also be required.<sup>61</sup> However, in such an extreme case an inference of intent to interfere with competition may well be warranted.

In the *Microsoft Windows 98* case, the district court's factual findings suggest that the court saw Microsoft's integration of Internet Explorer into Windows 98 as an example of deliberate weakening. The court found that binding the two software products together

[B]rings with it all the costs associated with carrying additional software on a system. These include performance degradation, increased risk of incompatibilities, and the introduction of bugs . . .

. . . Microsoft has unjustifiably jeopardized the stability and security of the operating system. Specifically, it has increased the likelihood that a browser crash will cause the entire system to crash and made it easier for malicious viruses that penetrate the system via Internet Explorer to infect non-browsing parts of the system.<sup>62</sup>

Nonetheless, the technological benefits of integrating Internet Explorer into Windows are hotly debated by the parties. Thus, the *Microsoft Windows 98* case is more appropriately treated in the next section, involving disputed cases of improvement.

12.3e3. *Ambiguous cases; standard for judicial determination.* Most cases of alleged predatory innovation fall somewhere in between these two extremes. Commonly, the defendant claims that the changed product is an improvement, while the plaintiff claims that it is not an improvement and was adopted in order to exclude competitors in the complementary goods market.<sup>63</sup> In order to evaluate these claims, courts must have some standard for deciding when a product is sufficiently innovative to justify the competitive harm its adoption causes in the complementary goods market. This in turn requires the court to venture onto the uncertain waters of evaluating technological improvement, something many courts are loathe to do.

60. See §12.3b.

61. See §12.3f.

62. *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, 53 (D.D.C. 1999). The court also found that "the removal of Internet Explorer . . . slightly improves the overall speed of Windows 98." *Id.* at 54. To the extent it is relevant, both HH and ML were consultants for the government in this case.

63. We discuss the intent requirement in §12.3f.

Deciding whether an allegedly predatory product change was in fact a genuine innovation is a difficult and fact-specific inquiry. In other contexts, some courts have suggested that the inquiry can be avoided — or at least short-circuited — by adopting an extremely deferential standard for deciding what is a genuine innovation. In a much-reported decision, the D.C. Circuit considered the legality of Microsoft's bundling its Internet Explorer browser into its Windows 95 operating system.<sup>64</sup> The fundamental facts of the case were that Microsoft had originally sold Windows 95 and Internet Explorer separately, but proceeded through various upgrades to intertwine the code for the two programs, and to sell Windows 95 only in conjunction with Internet Explorer (though not vice versa). The Justice Department charged that this violated a 1994 consent decree; for purposes of interpreting that consent decree, the key question was whether the two bundled programs constituted a permissible "integrated product." The district court issued an injunction precluding Microsoft from offering Windows 95 only on the condition that the user also take Internet Explorer.

The D.C. Circuit reversed. The majority held that Microsoft's actions did not violate the consent decree. Two of the judges went beyond that question, however, and addressed the propriety of evaluating improvements in software in far-reaching dictum:

[T]he combination offered by the manufacturer must be different from what the purchaser could create from the separate products on his own. The second point is that it must also be better in some respect; there should be some technological value to integration. Manufacturers can stick products together in ways that purchasers cannot without the link serving any purpose but an anticompetitive one. The concept of integration should exclude a case where the manufacturer has done nothing more than to metaphorically "bolt" two products together, as would be true if Windows 95 were artificially rigged to crash if IEXPLORE.EXE were deleted. Cf. *ILC Peripherals Leasing Corp. v. International Business Machines Corp.*, 448 F. Supp. 228, 233 (N.D. Cal. 1978) ("If IBM had simply bolted a disk pack or data module into a drive and sold the two items as a unit for a single price, the 'aggregation' would clearly have been an illegal tying arrangement.") *aff'd per curiam sub nom. Memorex Corp. v. International Business Machines Corp.*, 636 F.2d 1188 (9th Cir. 1980);

64. *United States v. Microsoft Corp.*, 147 F.3d 935 (D.C. Cir. 1998) (Windows 95 case).



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X Areeda, Elhauge & Hovenkamp, *Antitrust Law* ¶1746 at 227 (discussing literal bolting). Thus if there is no suggestion that the product is superior to the purchaser's combination in some respect, it cannot be deemed integrated.<sup>65</sup>

[I]ntegration may be considered genuine if it is beneficial when compared to a purchaser combination. But we do not propose that in making this inquiry the court should embark on product design assessment. In antitrust law, from which this whole proceeding springs, the courts have recognized the limits of their institutional competence and have on that ground rejected theories of "technological tying." A court's evaluation of a claim of integration must be narrow and deferential. As the Fifth Circuit put it, "[S]uch a violation must be limited to those instances where the technological factor tying the hardware to the software has been designed for the purpose of tying the products, rather than to achieve some technologically beneficial result. Any other conclusion would enmesh the courts in a technical inquiry into the justifiability of product innovations." *Response of Carolina, Inc. v. Leasco Response, Inc.*, 537 F.2d 1307, 1330 (5th Cir. 1976). . . .

We emphasize that this analysis does not require a court to find that an integrated product is superior to its stand-alone rivals. See *ILC Peripherals Leasing Corp. v. International Business Machines Corp.*, 458 F. Supp. 423, 439 (N.D. Cal. 1978) ("Where there is a difference of opinion as to the advantages of two alternatives which can both be defended from an engineering standpoint, the court will not allow itself to be enmeshed 'in a technical inquiry into the justifiability of product innovations.'" (quoting *Leasco*, 537 F.2d at 1330), *aff'd per curiam sub nom. Memorex Corp. v. IBM Corp.*, 636 F.2d 1188 (9th Cir. 1980)). We do not read §IV(E)(i) to "put judges and juries in the unwelcome position of designing computers." IX Areeda, *Antitrust Law* ¶1700j at 15 (1991). The question is not whether the integration is a net plus but merely whether there is a plausible claim that it brings some advantage. Whether or not this is the appropriate test for antitrust law generally, we believe it is the only sensible reading of §IV(E)(i).<sup>65.1</sup>

Judge Wald dissented from this opinion. She suggested a somewhat less deferential interpretation of the consent decree — and of antitrust law generally: "I think the prohibition [in the con-

65. [footnote 12 in original] Thus of course we agree with the separate opinion that "commingling of code. . . alone is not sufficient evidence of true integration." Commingling for an anticompetitive purpose (or for no purpose at all) is what we refer to as "bolting."

65.1. 147 F.3d at 949-950.

sent decree on tying] and the proviso [allowing integrated products] could reasonably be construed to state that Microsoft may offer an 'integrated' product to OEMs under one license only if the integrated product achieves synergies great enough to justify Microsoft's extension of its monopoly to an otherwise distinct market." Judge Wald would balance the productive efficiencies against the harm to competition in determining whether an antitrust violation had occurred.

*Microsoft* arose in the context of a consent decree, and its standards are not necessarily antitrust standards, though the court certainly seemed to draw from antitrust doctrine. More importantly, *Microsoft* was at base a tying case, and the ultimate question was whether Microsoft Windows and Internet Explorer met the technical requirement in tying law that there be two "separate products." Outside of tying, however, the proper inquiry is more flexible. Tying law developed its technical requirements largely because the so-called "per se" rule against tying was significantly overbroad, particularly in its assessment of market dominance.<sup>66</sup> When the defendant is a dominant firm, however, the screening function served by the two-products requirement is unnecessary and the more general standards of section 2 become relevant. Rule of reason challenges to bundling impose a stricter market power requirement, but dispense with the technical requirements of tying law.<sup>67</sup>

Thus, whether or not the *Microsoft* Windows 95 opinion represents the law of tying, it does not state the general standard for determining whether a product change violates section 2. The fundamental inquiry in a section 2 case (assuming proof of market power) is whether the allegedly anticompetitive practice injures competition unnecessarily.<sup>68</sup> Thus, in the *IBM Peripheral EDP Devices* case, the court rejected the idea (urged by the court in *ILC Peripherals v. IBM*)<sup>69</sup> that "where there is a valid engineering dispute over a product's superiority the inquiry should end." The court found the test "overprotective. It ignores the possibility that a superior product might be used as a vehicle for tying sales of other products, and would pronounce products superior even where the predominant

66. For a discussion of the tying market power requirements, see §21.4.

67. See generally 3A Antitrust Law ¶777 (2d ed. 2001).

68. See 10 Antitrust Law ¶1742b (1996).

69. 458 F. Supp. 423, 439 (N.D. Cal. 1978), *aff'd sub nom. Memorex v. IBM*, 636 F.2d 1188 (9th Cir. 1980).

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evidence indicated they were not."<sup>70</sup> Rather, the court endorsed a more general section 2 inquiry: whether the "design choice is unreasonably restrictive of competition."<sup>71</sup>

This inquiry will be hard in many cases. It will be rare that both parties agree that an innovation is significant,<sup>72</sup> and rarer still that the product change actually makes everyone worse off from a technical standpoint.<sup>73</sup> In many cases the parties will contest the extent of the innovation or even whether the product was innovative at all. They will also dispute whether the design change was necessary to the innovation; if not, the fact that the new product was innovative as a whole will not justify the design change.<sup>74</sup> Resolving these arguments will require a court to delve into the technical details of the product change.<sup>75</sup> Courts are understandably wary of being caught up in such arguments. But it is an inquiry that must be made in a section 2 case once market power has been proven.

70. *IBM Peripheral EDP Devices*, 481 F. Supp. 965, 1003 (N.D. Cal. 1979), *aff'd* on other grounds, 698 F.2d 1377, 1382 (9th Cir. 1983).

71. *Id.* (citing *Sherman v. British Leyland Motors, Ltd.*, 601 F.2d 429, 452 n.46 (9th Cir. 1979)). *Accord* *GAF Corp. v. Eastman Kodak Co.*, 519 F. Supp. 1203, 1228 (S.D.N.Y. 1981); 3A *Antitrust Law* ¶777 (2d ed. 2001); Franklin M. Fisher, *Antitrust and Innovative Industries*, 69 *Antitrust L.J.*—(forthcoming 2001).

72. *Cf. Caldera, Inc. v. Microsoft Corp.*, 72 F. Supp. 2d 1295 (D. Utah 1999) (finding a genuine factual issue as to whether the benefit of Microsoft's integration of products into Windows 95 was "significant").

73. Thus, in the *Microsoft Windows 98* case, the District Court found that "Windows 98 users uninterested in browsing" were injured by the inclusion of Internet Explorer, as were users who affirmatively preferred a competing browser. 84 F. Supp. at 53. This conclusion seems unexceptional. More questionable is the court's conclusion that even users who want to use Internet Explorer are hurt by its bundling with Windows 98. See *id.* If true, the conclusion makes the case quite easy. If not, the court is obligated to balance the harm to one group against the benefit to another.

74. See *id.* at 53, 56 (finding that "Microsoft could offer consumers all the benefits of the current Windows 98 package by distributing the products separately and allowing OEMs or consumers themselves to combine the products if they wished").

75. Courts may be tempted to resolve such debates by relying on the presence or absence of an intellectual property right covering the new product design, on the theory that if a new design got patent or copyright protection it must be innovative. *Cf. C. R. Bard, Inc. v. M3 Sys.*, 157 F.3d 1340, 1370 (Fed. Cir. 1998) (Newman, J., dissenting). While the existence of a patent could conceivably be relevant to the inquiry, we do not think the presence or absence of intellectual property rights should be determinative. Copyrights and trade secrets are not granted after inquiry by the government, but are obtained automatically upon the creation of a new work of authorship or a new secret. The fact that a computer program is copyrighted, therefore, tells us very little about whether the changes in that program are innovative. Patent law is designed to identify innovative ("nonobvious") ideas, but in practice very little innovation is required to obtain a new patent in some industries. Further, the PTO tests how *different* a design is from its predecessors, not whether it is better or worse. Thus, courts would be unwise to presume from the existence of an intellectual property right that a new product design is sufficiently innovative. Similarly, there is no warrant for the opposite presumption—that a failure to patent a product change means it is not innovative.



In a recent application of the section 2 standard, the Federal Circuit's *Bard* decision condemned a redesign that arguably had no impact except to make rivals' complementary supplies obsolete.<sup>76</sup> The defendant had modified its patented biopsy gun, a medical device for automatically taking biopsy samples from a patient, so that it would not accept the plaintiff's non-infringing disposable needles or those of other third party suppliers. The patentee argued that the modifications had improved its patented gun, and to hold a patentee "liable for the modification would have the 'pernicious' effect of penalizing innovators for making improvements to their products."<sup>77</sup> However, the jury had been asked whether the product was improved and had answered in the negative, concluding that the patentee had changed the design merely to exclude the plaintiff's needles. The court affirmed:

Although Bard contended at trial that it modified its Biopsy gun to make it easier to load and unload, there was substantial evidence that Bard's real reasons for modifying the gun were to raise the cost of entry to potential makers of replacement needles, to make doctors apprehensive about using non-Bard needles, and to preclude the use of "copycat" needles.<sup>78</sup>

Further, one of the defendant's internal documents showed that the redesign had no effect at all on the operability of the gun and another document acknowledged that use of a third party's needles could "not possibly" have ill effects on either the patient or the gun itself.<sup>79</sup> "In view of that evidence, the jury could reasonably conclude that Bard's modifications to its guns constituted 'restrictive or exclusionary conduct' in a market over which it had monopoly power."<sup>80</sup> More precisely, Bard had legitimately granted power in the market for biopsy guns by virtue of its patent, but secured a second monopoly in disposable needles by virtue of the design change.

76. C. R. *Bard v. M3 Sys.*, 157 F.3d 1340 (Fed. Cir. 1998), cert. denied, 526 U.S. 1130 (1999).

77. *Id.* at 1382.

78. *Id.*

79. *Id.*

80. *Id.*



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A second example is the D.C. Circuit's 2001 decision in *United States v. Microsoft*.<sup>81</sup> In that case, the D.C. Circuit, acting *en banc*, rejected its own rather strong dicta from the 1998 *Microsoft* decision. It held that Microsoft's commingling of browser and operating system code, and its efforts to prevent OEMs and users from separating the two, violated section 2 of the Sherman Act. As the D.C. Circuit noted:

Technologically binding IE to Windows, the District Court found, both prevented OEMs from pre-installing other browsers and deterred consumers from using them. In particular, having the IE software code as an irremovable part of Windows meant that pre-installing a second browser would "increase an OEM's product testing costs," because an OEM must test and train its support staff to answer calls related to every software product pre-installed on the machine; moreover, pre-installing a browser in addition to IE would to many OEMs be "a questionable use of the scarce and valuable space on a PC's hard drive."<sup>82</sup>

The district court had found that three different "technological shackles"<sup>83</sup> effectively bound IE to the Windows system:

excluding IE from the "Add/Remove Programs" utility; designing Windows so as in certain circumstances to override the user's choice of a default browser other than IE; and commingling code related to browsing and other code in the same files, so that any attempt to delete the files containing IE would, at the same time, cripple the operating system.

Before proceeding, the court gave this warning:

As a general rule, courts are properly very skeptical about claims that competition has been harmed by a dominant firm's product design changes. . . . In a competitive market, firms routinely innovate in the hope of appealing to consumers, sometimes in the process making their products incompatible with those of rivals; the imposition of liability when a monopolist does the same thing will inevitably deter a certain amount of innovation. This is all the more true in a market,

81. *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001) (*en banc*) (*Microsoft IV*).

82. *Microsoft*, 253 F.3d at 64, citing Findings of Fact, at ¶159.

83. *Id.*, quoting 87 F. Supp. 2d at 39.

such as this one, in which the product itself is rapidly changing. Judicial deference to product innovation, however, does not mean that a monopolist's product design decisions are per se lawful.<sup>84</sup>

The court found that all three of the challenged practices were prima facie anticompetitive. For two of the three—excluding IE from the Add/Remove utility and commingling the code—Microsoft had offered no business justification. For the third—causing Windows to override the user's selection of Netscape as the default browser in certain invocations—the court found that Microsoft offered as a valid justification that this feature limited conflict when the user was attempting to use certain sub-features that existed only on IE, not on Netscape. Further, the override affected only a few of the numerous ways in which Windows permitted the browser to be launched. Since the government had not rebutted these claims, this particular practice was found not to be unlawful.<sup>85</sup>

The finding that commingling Windows and IE code violated section 2 was a very important part of the government's case respecting exclusionary practices directed against browsers. Indeed, both the government's section 2 monopoly maintenance claim and the tying claim included allegations that Microsoft commingled code, thus making it virtually impossible for a user to segregate the operating system from the browser. The district court's tying analysis found that Microsoft had initially used contractual arrangements to bundle IE and Windows but had switched to code commingling in later versions of Windows.<sup>86</sup>

The implications of the commingling finding could be substantial, for it is not necessarily limited to the commingling of Windows code with that of IE, but also with the code for other "applications" programs. If commingling of the code for a product by a monopolist causes significant injury to a rival's market for the commingled product, then it is unlawful unless justified. Justification requires not merely a showing that commingling works well or serves some

84. *Id.* at 65 (citations omitted). For further development, see Antitrust Law ¶776 (2d ed.).

85. *Microsoft*, 253 F.3d at 67.

86. See *United States v. Microsoft*, 87 F. Supp. 2d at 39 (D.D.C. 2000). However, while the code commingling was condemned by the district court in its section 2 analysis, that court ignored the government's request to include it in the later section 1 tying analysis as well. The most likely reason that the district court did not include code commingling as part of its tying analysis is that section 1 of the Sherman Act, under which the tying was analyzed, requires a "contract," "combination," or "conspiracy," while the code commingling as discussed by the district court appears to have been a purely unilateral act.

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beneficial purpose, but that substantially the same results could not be achieved in a less restrictive manner. For example, most after-market installation programs for Windows applications permit Windows to invoke that program's code in a way that provides all of the functionality that can be obtained when the application is "written into" Windows from the start.<sup>87</sup> Further, writing such code into Windows makes it larger and more difficult to manage and support, and can be burdensome to consumers who have no wish to use the commingled product.<sup>88</sup> The Circuit Court's opinion did not explore these issues.

To say that a court must inquire into whether an allegedly predatory product change is truly innovative does not mean that it should give no deference at all to claims of product innovation. First, any significant improvement over existing technology should be lawful even if it makes rivals' complementary products obsolete. Thus, once the court determines that the product is significantly innovative, the inquiry is at an end.<sup>89</sup> The alternative—attempting to balance the degree of improvement against harm to rivals, as Judge Wald suggested in her *Microsoft Windows 95* dissent—simply injects too much uncertainty into the analysis.<sup>90</sup>

Second, in a market economy consumers are the ultimate judge of the quality of a product. It is periodically argued that new products that are wildly popular with consumers are nonetheless "in-

87. Aftermarket installation often modifies or displaces existing code, yielding a result that could be virtually indistinguishable from writing the code into the Windows program from the start. See Findings of Fact, ¶188, which the D.C. Circuit did not question:

188. Unlike a "pocket part" supplement to a book, a software upgrade need not consist only of new material. A service pack upgrade may install a combination of new software files and/or replacements for existing software files. The use of such service packs to distribute new functionality is a standard feature of Windows applications generally. Microsoft could offer "integrated" Internet Explorer Web browsing functionality as a service pack upgrade that would locate the relevant software and replace it with the current Windows 98 software. In this way, any consumer who wished to do so could easily acquire all of the functionality, features, and performance of the current version of Windows 98 by obtaining the browserless operating system package and the service pack upgrade and then installing them together.

88. The district court Findings of Fact, ¶¶160-174, found that Windows ran more slowly when IE code was commingled into Windows files, that it was more prone to crash and generally became less stable.

89. Thus, in *IBM Peripherals EDP Products*, the court rejected liability for a claimed interface change where it found that the product in question "alleviated some difficult technical problems" and "was a superior design," even though the court concluded that "IBM's predominant intent in adopting the Mallard design was undoubtedly to preclude or delay PCM competition." 481 F. Supp. at 1005.

90. See *California Computer Prods. v. IBM*, 613 F.2d 727 (9th Cir. 1979).



ferior" and that consumers are being "duped" by marketing campaigns. Whether or not this is objectively true, courts should not take it upon themselves to decide that the marketplace has made the wrong decision. Thus, in the subset of cases in which consumers are given a choice between new and old and opt for the new,<sup>91</sup> courts should accept that choice as determinative on the question of whether the new product was an improvement. Thus, in *Berkey Photo*,<sup>92</sup> the court properly rejected the plaintiff's claims that Kodak's new film, though extremely successful, was in fact inferior.<sup>93</sup> By contrast, if a defendant *replaces* its old product with the allegedly innovative one, as happened in both the *IBM* and *Microsoft* cases, consumers cannot make a market choice and this factor is irrelevant.

Third, courts may properly defer to technical design by limiting the scope of their remedy for predatory product changes. In *Massachusetts v. Microsoft*,<sup>93.1</sup> for example, the court affirmed the district court's refusal to grant a structural remedy that would compel Microsoft to rewrite its code, instead relying on a remedy that permitted customers and OEMs to add and remove applications programs from the Windows desktop. The D.C. Circuit praised this remedy for "remedying the anticompetitive effect of commingling . . . without intruding itself into the design and engineering of the Windows operating system."<sup>93.2</sup>

Finally, if measured *ex ante*, innovation is risky and expensive, and many research programs intended to result in superior products have far less dramatic results. Some result in products that are not significant improvements at all, but merely different; others result in things that cannot even be marketed. As a result, *ex post* analysis is problematic. One cannot infer from the fact that an invention is not a significant improvement that it was not intended to be.<sup>94</sup> The courts have solved this problem by requiring evidence of intent in addition to evidence that a product is not significantly innovative. Thus, the *Bard* case had the additional ingredient that

91. E.g. *Foremost Pro Color v. Eastman Kodak Co.*, 703 F.2d 534, 542 (9th Cir. 1983).

92. 603 F.2d 263 (2d Cir. 1979).

93. *Id.* at 287.

93.1. 2004 WL 1462298 (D.C. Cir. June 30, 2004) (en banc).

93.2. *Id.*

94. Cf. *ILC Peripherals Leasing Corp. v. International Business Machs. Corp.*, 448 F. Supp. 228, 233 (N.D. Cal. 1978), which concluded that innovation resulting in a technological tie was permissible even where "there is a difference in opinion as to the advantages of two alternatives which can both be defended from an engineering standpoint."



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the “innovation” in the gun was never intended to be an improvement but only a mechanism for excluding the disposable needles of rivals.<sup>95</sup> We discuss the intent standard in the following section.

12.3f. The role of intent. The concept of predation would seem to presuppose an anticompetitive intent. In the context of allegedly predatory product innovation, courts frequently inquire into the defendant’s motivation for making the design change. Thus, in *Response of Carolina v. Leasco Response*,<sup>96</sup> a tying case, the court considered *in dictum* the possibility that the technological linking of a software program to proprietary hardware might violate the antitrust laws. It wrote:

But such a violation must be limited to those instances where the technological factor tying the hardware to the software has been designed for the purpose of tying the products, rather than to achieve some technologically beneficial result.<sup>97</sup>

The court suggested that the inquiry must be subjective in order to avoid “enmesh[ing] the courts in a technical inquiry into the justifiability of product innovations.”<sup>98</sup>

Other courts have been more skeptical of the role of intent. In *IBM Peripheral EDP Devices*, the court specifically rejected the *Leasco* approach. It focused on the difficulty of discerning predatory intent and distinguishing it from proper motives:

[U]sually many results are intended, and if only one, even the predominating, intent is illegal, and thus punished, legitimate incentives will be imperiled. Discerning corporate intent is seldom easy, and, in any event, the law against monopolization is much more concerned with the effect of conduct rather than with its purpose.<sup>99</sup>

The *IBM* court is right to worry about finding illegality based solely on intent. Evidence of anticompetitive intent is ambiguous,

95. For differing views on the issue, see Joseph Farrell & Garth Saloner, *Installed Base and Compatibility: Innovation, Product Pre-Announcements and Predation*, 76 *Am. Econ. Rev.* 940 (1986); Janusz Ordover & Robert Willig, *An Economic Definition of Predation: Pricing and Product Innovation*, 91 *Yale L.J.* 8 (1981); Gregory Sidak, *Debunking Predatory Innovation*, 83 *Colum. L. Rev.* 1121 (1983).

96. 537 F.2d 1307 (5th Cir. 1976).

97. *Id.* at 1330.

98. *Id.*

99. 481 F. Supp. at 1003.

often malleable, and requires attributing motives to a large and diverse corporate entity. Significantly, however, the courts that do rely on intent evidence do not do so as a substitute for evidence of market effect or technological inquiry. Rather, cases such as *Bard* involve both evidence of predatory intent and evidence that the intended change was not in fact a technological improvement.<sup>100</sup> By requiring proof of both elements, courts can use intent evidence as a check on innovations of ambiguous technical merit.<sup>101</sup> Even a not-very-innovative product design change that shuts out competitors in complementary goods markets will not be illegal unless the predominant purpose of the change was to injure competition rather than to improve the product in question. The difficulty of discerning corporate intent should caution against too rigid an application of this requirement, however. In any given case, there may be evidence suggesting both that a particular change was made in order to disadvantage a competitor and that the change had some valid purpose. To require proof that the defendant's intent was *solely* to disadvantage a competitor would set the burden so high as to make it effectively impossible to meet. Rather, we think proof of a predominant purpose to injure competition should suffice once the remaining standards described in this section have been met.

## §12.4 Disclosure of Information Related to Innovation

**12.4a. Liability for failing to predisclose technological changes.** In the cases we discussed in the last section, the plaintiffs objected to the allegedly predatory design change itself. By and large, what those plaintiffs wanted was a return to the world that existed before the defendant changed its product. Sometimes, however, antitrust plaintiffs do not seek to roll back changes, particularly if

100. C. R. *Bard v. M3 Sys.*, 157 F.3d 1340, 1382 (Fed. Cir. 1998), cert. denied, 526 U.S. 1130 (1999).

101. Thus, in the *Microsoft Windows 98* case, the district court made detailed findings that Microsoft bundled Internet Explorer with Windows not in order to improve the product, but in order to leverage its Windows monopoly into the browser market. See 84 F. Supp. at 49, 50 ("Microsoft decided to bind Internet Explorer to Windows in order to prevent Navigator from weakening the applications barrier to entry, rather than for any pro-competitive purpose.") Standing alone, such a finding of intent would not render Microsoft's conduct illegal. But when coupled with the court's findings that Microsoft was a monopolist and that the bundle was not in fact an improvement, see note 61, it is sufficient to support a section 2 violation.

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they are concededly innovative. Rather, they seek to employ antitrust law to force the defendant to predisclose the changes in its product so that the plaintiff can continue to make compatible products without interruption. This argument has surface allure because it does not compel a defendant to stop innovating, just to open its product interfaces to the makers of complementary goods. However, a combination of perverse incentives and practical objections has caused courts to reject any predisclosure obligation.

12.4a1. *Berkey Photo case.* The leading case on predisclosure obligations is *Berkey Photo v. Eastman Kodak*.<sup>1</sup> The case is complex, and includes elements of challenge to the innovations as well as a claim for predisclosure. Briefly, Kodak was a vertically integrated manufacturer of cameras, film, camera paper and photofinishing services. The color photofinishing business required that a consumer who bought a camera and film for that camera bring the film to a photofinisher, who purchased color paper and photofinishing equipment and provided color photofinishing services. Kodak was alleged to have monopolies in the manufacture of amateur (not 35 mm) still cameras, film for those cameras, and color paper for printing photos. Berkey Photo competed with Kodak in the camera market; it also provided photofinishing services, and therefore was a purchaser of Kodak's color paper and photofinishing equipment.

Kodak introduced a new pocket camera, the 110, which worked with a new film called Kodacolor II. That film in turn could be processed only by using special photofinishing chemicals and equipment also supplied by Kodak. The plaintiff alleged that the effect of the introduction of the 110 was to disadvantage rivals in all the downstream industries: film makers lost sales until they could come up with a new film for the 110 camera; photofinishers had to buy color paper, chemicals and equipment from Kodak at "inflated" prices until others could develop equivalent products.

The court accepted the jury's finding that Kodak held a monopoly in the camera, film and paper markets.<sup>2</sup> Nonetheless, it rejected Berkey's claims. The Second Circuit affirmed. Central to the court's conclusion were the determinations that the new film was innovative<sup>3</sup> and its conclusion that even if it has a negative

§12.4 1. 603 F.2d 263 (2d Cir. 1979).

2. Kodak was not found to have monopolized either the market for photofinishing or for photofinishing equipment.

3. See §12.3e3, discussing this aspect of the case.



ments among them do not suddenly bring together economic power that was previously pursuing divergent goals. Coordination within a firm is as likely to result from an effort to compete as from an effort to stifle competition. In the marketplace, such coordination may be necessary if a business enterprise is to compete effectively. For these reasons, officers or employees of the same firm do not provide the plurality of actors imperative for a §1 conspiracy.<sup>45</sup>

Under this reasoning, the courts also hold that a firm and its employees are a single entity for most antitrust purposes.<sup>46</sup> As a result, the ordinary contractual assignment of a patent from an employee to his or her employer is a unilateral act for antitrust purposes.

### §14.3 Intellectual Property Acquisitions by Dominant Firms

**14.3a. Introduction.** The principal concern of the merger laws is facilitation of collusion or oligopoly in the post-merger market. While statutory coverage is present, the principal concern of the merger provisions has not been “exclusionary” practices by dominant firms. To be sure, any multi-firm practice that excludes anti-competition could certainly violate §1 of the Sherman Act.<sup>1</sup> Likewise, Clayton §7’s “lessen competition” standard could certainly be interpreted to include mergers that increase the likelihood of anticompetitive acts by dominant firms, in addition to those that facilitate collusion.<sup>2</sup>

But for the most part patent acquisitions by dominant firms that threaten to increase or perpetuate the acquirer’s dominance have been treated as exclusionary practices under §2 of the Sherman Act. Once again, the patent laws encourage the licensing of patents and make no exception for exclusive licensees or licensees that hap-

45. 467 U.S. at 771-772.

46. E.g., *Borg-Warner Protective Serv. Corp. v. Guardsmark*, 946 F. Supp. 495 (E.D. Ky. 1996), *aff’d*, 156 F.3d 1228 (6th Cir. 1998) (security firm incapable of conspiring with its employees to restrain trade by requiring other employees to sign noncompetition clauses); *Willsea v. Theis*, 1999-2 Trade Cas. ¶72,616 (S.D.N.Y. 1999) (corporation could not conspire with its own officers). See generally 7 Antitrust Law ¶1470-1473 (1986).

§14.3 1. Good examples are boycotts and concerted refusals to deal. See 13 Antitrust Law ch. 22 (1999).

2. Some private challenges to mergers have proceeded on this basis. See, e.g., *Cargill v. Monfort of Colo.*, 479 U.S. 104 (1986), in which the plaintiff unsuccessfully challenged its rivals’ merger on the theory that the merger would facilitate aggressive pricing or other exclusionary practices. Similar decisions are discussed in 2 Antitrust Law 348 (2d ed. 2000).



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pen to be monopolists.<sup>3</sup> Unlike the ordinary plant or equipment case, the would-be acquirer who is denied access to a patent does not always or even usually have the alternative of building for itself. And unlike the talented manager, the patent can be used simultaneously by any number of rivals. These two properties of a patent—the power to exclude and the capacity for simultaneous multiple enjoyment—make intellectual property acquisitions unique and shape the approach of antitrust law.

Two distinctions are important. First, one must distinguish between acquisition of exclusive rights to a patent and acquisition of nonexclusive rights. “Exclusive” rights include rights obtained either by assignment or by exclusive license, and are generally those that prevent anyone except the acquirer to practice the patent. A nonexclusive right permits at least the licensor and perhaps others to practice the patent as well.

The second distinction is that between acquisition of rights in patents related to the subject matter of the monopoly, and acquisition of rights to unrelated technology. We define a “related” patent as any patented product or process that is a substitute for or an improvement upon the monopolized product, a component thereof, or the process used in producing it. A related patent may cover the competitive equivalent of the product, component, or process of the monopolist; it may be inferior; it may be an improvement patent “subservient” to the monopolist’s basic patent; or it may cover an alternative noninfringing product or process. These various forms of related patents raise somewhat different questions, but generally they do not call for different treatment under the antitrust laws. An “unrelated” patent is any patent that is not a “related” patent.

Finally, the term “monopolist” refers to a firm that controls a dominant share of a properly defined relevant market. It does *not* refer to a firm that simply has the exclusive right—sometimes termed a “monopoly” by the courts—to practice a particular patent.

3. See 35 U.S.C. §261:

Applications for patent, patents, or any interest therein, shall be assignable in law by an instrument in writing. The applicant, patentee, or his assigns or legal representatives may in like manner grant and convey an exclusive right under his application for patent, or patents, to the whole or any specified part of the United States.

The National Cooperative Research Act of 1984, 15 U.S.C. §§4301-4305, provides that for a qualifying participant in a joint venture all its practices, including patent acquisitions, are to be governed by the rule of reason. Since §2 violations are normally governed by the rule of reason in any event, that provision should have little impact on the analysis offered here when the acquirer is a monopolist.

Ownership of one or even several patents cannot in and of itself create any presumption of substantial market power.<sup>4</sup>

Acquisitions by a monopolist of *exclusive* rights in *related* patents are presumptively a §2 "exclusionary practice." By contrast, a monopolist is generally free (subject to the previously discussed prohibitions of Sherman Act §1 or Clayton Act §7) to acquire exclusive rights in unrelated patents, and nonexclusive rights in any patent. Finally, most patent acquisitions are lawful as far as §2 is concerned if the acquirer was not a monopolist when the acquisition was made, although a series of acquisitions that creates a monopoly firm might be seen as an unlawful attempt to monopolize.

By acquiring a related patent, the monopolist might prevent present or future competition challenging its monopoly.<sup>5</sup> The clearest case would be the acquisition of an equivalent patent covering the only known economic alternative to the monopolist's product or process. Such an acquisition forecloses potential competition by rivals who might otherwise have access to that patent. Even the acquisition of one out of several equivalent patents might have exclusionary effects. The acquired patent might, with further advances in the art, turn out to have been the most promising.

Similarly, the acquisition of an inferior patent would have anti-competitive effects whenever third parties had developed, subsequently developed, or subsequently would have developed improvements that make it equal or superior to the monopolist's patent. It would be difficult in practice to determine whether that would be the result or, indeed, whether the patent was "inferior" to start with. Further, the inquiry is rarely worthwhile, for even inferior technologies can provide some, if not perfect, competition to the patentee. Indeed, high cost rivals or rivals making a somewhat inferior product provide more competition than no rivals at all.<sup>6</sup>

4. See §4.2.

5. See, e.g., *United States v. Singer Mfg. Co.*, 374 U.S. 174 (1963) (applying Sherman §1).

6. For example, suppose the patentee's technology produces widgets at \$5.00 and then an inferior technology is developed that produces identical widgets at a cost of \$5.10. In a perfectly competitive market the inferior technology might not survive; but in a market dominated by a large firm, the higher cost technology might be quite effective in holding that firm's prices to \$5.10. Further, in a product differentiated market there might be significant demand for the \$5.10 product even if it is technologically inferior. For further development and graphic illustrations see Herbert Hovenkamp, *Federal Antitrust Policy: The Law of Competition and Its Practice* §4.1b (2d ed. 1999).

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The acquisition of an exclusive license in a patent covering an improvement to the monopolist's basic patent might enable the monopolist to perpetuate its monopoly beyond the period of the basic patent.<sup>6.1</sup> The acquisition facilitates protection not only for the original life of the basic patent, but also for the life of the improvement patent. And even if any particular improvement patent is relatively unimportant in itself, there are the anticompetitive dangers of accumulation.

The effects are rather speculative when the monopolist acquires a patent covering a process or product that is clearly superior to its own and that can be practiced independently of it. On the one hand, the monopolist deprived of any access to the superior patent, which is then acquired by a rival, might be able to survive and intensify competition by developing superior technology of its own. If not, the new patent might confer a significant market monopoly on whoever acquires it, such that it makes no difference whether the new monopoly is held by the old monopolist or a new one. In advance, of course, we can seldom know what will happen. But permitting the monopolist a nonexclusive license lets the monopolist remain in the market while also allowing competition to emerge.

This brief canvass shows that the monopolist's acquisition of exclusive rights of any related patent can endanger competition, but the dangers are somewhat speculative in particular cases and may vary with the relationship of the acquired patent to those already held by the monopolist. But neither impossible predictions nor elusive distinctions among patents need be made either by the monopolist or by the antitrust enforcement authorities under our proposal, which would prohibit the monopolist from acquiring exclusive rights in any related patent, but permit it to acquire nonexclusive rights in any patent.

Even when a patent acquisition is unlawful, the infringer may not have standing to challenge it. For example, one decision held that whether or not a dominant firm's acquisition of an exclusive right to enforce a patent in its market was unlawful, the infringement

6.1. Cf. *In re Biovail Corp.*, 2002 WL 727033 (FTC No. 011 0094, April 23, 2002) (consent decree; respondent agrees not to acquire or enforce patents relating to Tiazac, to settle charges of "evergreening" by acquiring patents and listing them sequentially in the Orange Book).

defendant did not suffer antitrust injury because it was an infringer no matter who enforced the patent against it.<sup>7</sup> While these decisions seem correct as a matter of antitrust policy, they are at least superficially inconsistent with the Supreme Court rule that a firm who is guilty of patent "misuse" may not maintain an in-

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7. *Eastman Kodak Co. v. Goodyear Tire & Rubber Co.*, 114 F.3d 1547 (Fed. Cir. 1997) ("Goodyear would have suffered these same injuries if Zimmer [the licensor and original patentee] had retained exclusive rights to the patent and had enforced the patent against Goodyear itself").



fringement action even if the infringement and the misuse are unrelated.<sup>8</sup>

**14.3b. Dominant firm acquisitions: balancing antitrust and IP concerns.** In considering patent acquisitions by dominant firms one must be sensitive to the fact that too strict a rule against acquisitions by the monopolist may injure the outside patentee, the monopolist itself, or even the public unnecessarily. Any limitation on a monopolist's freedom to acquire patents from outsiders can impair the outsider's ability to profit from its invention, and thus discourage outsider inventive activity. Often patents, particularly improvement patents, are valuable only to those already producing under patents that they have developed or procured from others. Many patented innovations are developed by people or firms who lack the capacity or desire to practice the patent themselves. For them, the incentive to innovate comes entirely from their ability to license the patent to others. Thus in some circumstances the monopolist might be the only available practitioner of the new invention, or certainly the one willing to pay the highest price. Where there are two potential users of the patent, a legal rule precluding one would subject the patentee to the mercy of the other. In sum, antitrust policy must not be so eager to contain monopolists that it dampens the flow of inventive activity which may not only improve the monopolist's product but may also generate new competition.

A similar set of concerns are appropriate even for the monopolist. For most assets, antitrust policy can limit acquisitions and yet leave the would-be acquirer free to build a similar asset for itself. For example, forbidding the dominant firm from acquiring a rival's manufacturing plant generally leaves the firm free to build its own plant. Patents are different. To prevent the monopolist from acquiring any rights under a new patent could ruin it if the new patent covers a significantly better process or product. The monopolist does not have the assured alternative of making and practicing a comparable substitute invention. Of course, "inventing around" a patent is always conceivable, but hardly certain.

One may not place much value on the purely private interest of a monopolist in acquiring rights to practice a superior patent, but

8. See, e.g., *Morton Salt Co. v. G. S. Suppiger Co.*, 314 U.S. 488 (1942) (salt machinery patentee who was improperly tying salt to its patent licenses unable to maintain infringement action against one producing infringing machines). See generally Chapter 3.

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the public interest may also be served in some circumstances. Consumers may receive a better product where no others can effectively practice the patent or would take a long time to do so. And it may be preferable competitively to let the erstwhile monopolist become one of the patent licensees than to shut it out altogether. But in nearly all cases these results will be obtained when the monopolist is given a nonexclusive rather than exclusive license. The nonexclusive license gives the monopolist the full power to improve its own invention, while limiting its ability to limit competition with others.

Forbidding the monopolist from acquiring any interest in a related patent would not take adequate account of its obvious and understandable interest in obtaining access to technology patented by others. This interest is most obviously legitimate when the monopolist seeks access to the outside patent covering an improvement on one of its existing patents and subservient to it (in the sense that the improvement cannot be practiced without infringing the basic patent held by the monopolist). Unless the monopolist can practice the improvement, or chooses to license its basic patent, both the public and the outside inventor will be deprived of any benefit from the improvement until the basic patent expires. The monopolist might even have a legitimate interest in access to outside patents "equivalent" or "inferior" to its own. The monopolist may anticipate that it can develop improvements making the product or process superior to that covered by its own patents; indeed, it may already have improvement patents that cannot be practiced without infringing the outsider's basic patent. The monopolist's interest in access to a superior product or process is very clear, because it might be ruined without such access.

Finally, the monopolist has a special interest in acquiring "blocking" patents held by others, but that might hamper development of the monopolist's own technology. This is a likely reading of the Federal Circuit's *Intergraph* decision which held that Intel did not violate the antitrust laws when it refused preferred treatment to Intergraph unless the latter licensed complementary technology to Intel.<sup>9</sup>

**14.3c. Solution I: nonexclusive license.** Most of the competitive objections to intellectual property acquisitions by dominant firms disappear when the license that the firm acquires is nonexclusive. Further, in most cases the acquisition of a nonexclusive li-

9. *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346 (Fed. Cir. 1999).

cense protects the monopolist's technology and provides sufficient compensation to outside innovators.

To be sure, the outside patentee may argue that any restriction on the monopolist's ability to buy exclusive rights will reduce the value of the improvement or other patent to the monopolist, and thus the return to the innovator. This would reduce the incentive of outsiders to develop technology where the most likely or only purchaser is the monopolist itself.

However, in many cases this reduction in revenues from the monopolist would be offset by new revenues from other licensees. If there are no other licensees, then the monopolist is not likely to have paid appreciably more for exclusive rights in any event. Of course, the monopolist might pay a premium for exclusive rights, and more than any other licensee because gaining the new invention would strengthen its monopoly. But denying the patentee this premium does not seem unwise. The patentee deserves a reward for its invention, but not for strengthening the pre-existing market monopoly. Further, a licensor who wants to grant an exclusive license to make more money can always grant it to someone other than the monopolist.

At the same time, the monopolist might fear an insistence on nonexclusive licenses, reasoning that preventing it from acquiring exclusive rights would preclude it from any access to an outside patent whenever the patentee would prefer to grant an exclusive license. Such a license would have to be granted to someone else. But this fear is usually ill-founded, for the improvement patent cannot be practiced without infringing the monopolist's patent. To gain any return there, the outside patentee must usually license the monopolist's patent.

To be sure, limiting the monopolist to a nonexclusive license would foreclose it from access to an outside patent whenever another would pay more for exclusive rights than the patentee anticipates obtaining from multiple nonexclusive licenses. If the monopolist possessed improvement patents on the outside patent, it should be able to pay more for a nonexclusive license than a third party would pay for exclusive rights (and there may be mutual interests in cross-licensing). But if there are others willing to pay more for "equivalent" or "inferior" patents, the existence of an alternative acquirer clearly signals a new competitor for the monopolist, and competition is served by preventing the monopolist from outbidding the new entrants for exclusive rights.

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One might also object that allowing the monopolist to acquire nonexclusive rights in any related patent held by an outsider creates excessive risks to competition and thus is excessively generous to the monopolist. Precluding the monopolist from any access to outside patents might have the following virtues:

- By eliminating one purchaser of rights under that patent, such preclusion might make it cheaper for some actual or potential rival to acquire some rights under the patent.
- Preclusion might prevent the monopolist from improving its product and thus perhaps hasten its decay and perhaps speed entry by others.
- Preclusion would prevent the patentee from practicing any improvement patents it possesses on outside patents and thus strengthen the relative competitive position of any rival who does or might practice that outside patent.
- Even a nonexclusive license might preserve the monopoly, because the monopolist's existing facilities and established customer relationships might give it a decisive head start.
- Precluding the monopolist from access to any desired patent may stimulate it to greater innovative effort on its own.

But to achieve such conceivable virtues, precluding the patentee from any access to related technology held by an outsider could prejudice the patentee, dissuade the monopolist from developing improvements on outside patents, obstruct or delay the practice of superior arts, or require elusive distinctions by the antitrust authorities among the various kinds of patents. In short, we do not see a compelling case against the generally applicable rule permitting a monopolist to acquire nonexclusive rights on any patent.

**14.3d. Solution II: compulsory licensing.** An alternative remedy to nonexclusive licensing, but one that we generally oppose, would permit the monopolist to acquire exclusive rights but require it to re-license all qualified applicants. Any possible advantages this approach may have are outweighed by its severe administrative difficulties. To prevent the monopolist from setting so high a royalty as to eliminate all potential takers, the courts would have to supervise it. But this presents serious if not intractable problems in determining a "reasonable" royalty rate. In theory, the appropriate rate is measured by the value of the patent. But value is almost impossible to determine in nearly all circumstances.



Suppose the monopolist has acquired its position by means of an array of internally developed or lawfully acquired patents. Should antitrust impose any duty on this monopolist to license the acquired patents to others? The Second Circuit thought not in the SCM case.<sup>10</sup> SCM complained that it had been excluded from the plain-paper office copier market by monopolist Xerox, which had refused to license key patents. Xerox was actually using the patents, some of which it had developed internally, and others of which it had acquired by exclusive licenses.

SCM acknowledged that the original patentee was free to refuse to license others but argued that any subsequent owner of the patent was obliged to license, just as any monopolist might be required to share an "essential facility" with rivals.<sup>11</sup> Without passing upon the duties of monopolists generally, the court held that a patent holder, whether the original patentee or a lawful acquirer, was not required by Sherman Act §2 to license would-be rivals.<sup>12</sup> This conclusion entails that any liability depends on the legality of the original acquisition of the patents that Xerox had acquired from others. The acquisitions were determined to be lawful, for Xerox lacked market power at the time they were made.<sup>13</sup>

The patent statute confers the legal power to exclude. The likelihood of transfer to one who would best utilize the patent and the value of the patent to the inventor would be substantially impaired were the statutory exclusion power lost after a lawful conveyance to a developer or investor. The acquirer would always pay the inventor for his know-how, but this would be a smaller sum than when exclusion power is added. Thus diminishing the inventor's reward reduces incentives for inventive activity and seems inconsistent with the premise of the patent system.

**14.3e. Sherman §2 and grantbacks.** A grantback is a term in a patent license that requires the licensee to convey back to the original patentee rights under any improvement patent that the licensee might develop. A grantback is said to be exclusive when it permits only the patentee and inventing licensee to practice the improve-

10. *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195 (2d Cir. 1981), cert. denied, 455 U.S. 1016 (1982).

11. On the "essential facility" doctrine, see §10.3c and 3A Antitrust Law ¶¶772-774 (2d 2001).

12. 645 F.2d at 1206. Whether a patent holder would be obliged to license a patent that it abused through pooling or otherwise was reserved. *Id.* at 1206 n.10.

13. See *SCM Corp. v. Xerox Corp.*, 463 F. Supp. 983 (D. Conn. 1978), aff'd 645 F.2d 1195, 1207-1212 (2d Cir. 1981), cert. denied, 455 U.S. 1016 (1982).

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ment patent; or in a few cases grantbacks even forbid the innovating licensee to practice its own invention, effectively requiring it to cede all its rights to the patentee. By contrast, a nonexclusive grantback merely permits the patentee to practice the improvement patent in common with any others who are licensed under the basic patent.

Grantbacks are considered in more detail in Chapter 25. The principal basis for challenge is §1 of the Sherman Act, which condemns unreasonable restraints of trade. Here we pause briefly on the possibility of §2 challenges when the principal patentee is also a monopolist. In Chapter 25 we conclude that nonexclusive grantbacks are virtually always competitively harmless<sup>14</sup> and that even exclusive grantbacks are harmless in the absence of monopoly power. When the original patentee is a monopolist, however, the exclusive grantback raises the same concerns as apply to exclusive licenses generally.

A nonexclusive grantback clause fully serves the monopolist's legitimate aim of access to improvements in its basic technology. Grantbacks of exclusive rights tend to preserve the monopolist's position, and may discourage competitive research by those most motivated and best positioned to do it. Moreover, accumulation of improvement patents in the monopolist's hands perpetuates its monopoly power over licensees. In contrast, licensees retaining control over their respective patents would usually find it mutually beneficial to cross-license each other.<sup>15</sup>

The monopolist might complain that it was its own original license that brought the innovating licensee into the market to begin with, and this should entitle the monopolist to any improvements on its own invention. But this does not entitle the monopolist to control the invention made by another when anticompetitive consequences may result. The monopolist may also argue that inability to control the new inventions can bring "excessive" competition and thus dissuade monopolists from licensing their inventions at all. Reduced licensing would indeed reduce the spread of technology and the growth of competition. But reduced licensing seems too specu-

14. But see *United States v. Imperial Chem. Indus.*, 105 F. Supp. 215 (S.D.N.Y. 1952) (systematic insistence on nonexclusive grantbacks constituted attempt to monopolize); *United States v. General Elec. Co.*, 82 F. Supp. 753, 768, 815-816 (D.N.J. 1949) (same).

15. See, e.g., *Kobe v. Dempsey Pump Co.*, 198 F.2d 416, 420 (10th Cir.), cert. denied, 344 U.S. 837 (1952) (systematically acquiring exclusive grantbacks of all improvement patents constitutes attempt to monopolize).